

## ABSTRACT

A method for generating a preamble sequence in an orthogonal frequency division multiplexing (OFDM) communication system having A subcarriers in a frequency domain. The method comprises generating a length-M×N preamble sequence, where M×N is less than A , by using a length-N Golay complementary sequence and a length-M Golay complementary sequence; and assigning elements constituting the preamble sequence to M×N subcarriers among the A subcarriers on a one-to-one mapping basis, assigning null data to the remaining subcarriers excluding the M×N subcarriers from the A subcarriers, and then IFFT-transforming the assigned result into time-domain data.